

### **REMARKS**

Applicants thank the Examiner for the thorough examination given the present application.

#### **Status of the Claims**

Claims 1-6, 8-9, and 11-17 will be pending in the above-identified application upon entry of the present amendment. Claim 1 has been amended. Claim 7 has been cancelled herein. Support for the recitations in claim 1 can be found in claim 7 as originally filed as well as in the present specification, *inter alia*, at page 13, lines 8-9 and page 30, lines 15-17. Thus, no new matter has been added. Based upon the above considerations, entry of the present amendment is respectfully requested.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

#### **Priority Under 35 U.S.C. § 119**

Applicants thank the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. § 119 and receipt of the certified priority document.

#### **Information Disclosure Citation**

Applicants thank the Examiner for considering the references supplied with the Information Disclosure Statements filed April 6, 2006 and November 6, 2006 and for providing Applicants with an initialed copy of the PTO-SB08 forms filed therewith.

#### **Double Patenting**

Claims 1, 6, 9, and 11-17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 5, 8, 12, 15-17, and 19-22 of U.S. Patent No. 7,374,699. Applicants respectfully traverse.

As amended, claim 1 recites the subject matter of claim 7, which was not included in this rejection. As such, the obviousness-type double patenting rejection has been overcome and should be withdrawn.

**Issues under 35 U.S.C. § 103**

Claims 1-9 and 11-17 are rejected under 35 U.S.C. § 103(a) as being obvious over Yamamuro '875 (EP 1266875) in view of Buckman '107 (US 4,176,107). Applicants respectfully traverse. Reconsideration and withdrawal of this rejection are respectfully requested based on the following considerations.

**Legal Standard for Determining Prima Facie Obviousness**

MPEP 2141 sets forth the guidelines in determining obviousness. First, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), which has provided the controlling framework for an obviousness analysis. The four *Graham* factors are:

- (a) determining the scope and content of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating any evidence of secondary considerations.

*Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

Second, the Examiner has to provide some rationale for determining obviousness. MPEP 2143 sets forth some rationales that were established in the recent decision of *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). Exemplary rationales that may support a conclusion of obviousness include:

- (a) combining prior art elements according to known methods to yield predictable results;
- (b) simple substitution of one known element for another to obtain predictable results;
- (c) use of known technique to improve similar devices (methods, or products) in the same way;
- (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (e) "obvious to try" – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success

(f) known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;

(g) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

As the MPEP directs, all claim limitations must be considered in view of the cited prior art in order to establish a *prima facie* case of obviousness. *See* MPEP 2143.03.

Distinctions over the Cited References

As the Examiner admits, Yamamuro '875 fails to disclose the cationic polymer (C) of the present invention. The cationic polymer (C) produces unexpectedly superior results. Specifically, the present specification recites:

When the surfactant composition of the present invention is used for a slurry rheology modifier, a combination of the compounds (A) and (B) and the cationic polymer (C) produces such an excellent rheology modifying effect on even a slurry containing clay. Although not wanting to be limited by theory, the reason is as follows: Specifically, in the slurry in which clay exists, compound (A) adsorbs to the clay and there is therefore the case where the formation of string-like micelles which serve to modify rheology is inhibited. However, if the cationic polymer (C) exists like the case of the present invention, the adsorption of the cationic polymer (C) to clay can be prevented because the cationic polymer (C) adsorbs to clay more easily than compound (A). Also, the adsorption of the cationic polymer (C) to clay causes the coagulation of clay particles and also, the surface area of clay is reduced, ensuring that the amount of compound (A) to be adsorbed to clay can be reduced. As a result, string-like micelles (huge micelle associated body) produced by the compounds (A) and (B) are formed sufficiently and therefore, the original effects of the compounds (A) and (B) are maintained.

It is considered that the present invention can prevent compound (A) from adsorbing to clay by the aid of the cationic polymer (C) in the case where sufficient rheology modifying effect is not obtained because of the adsorption of compound (A) to clay, and therefore, rheology modification can be accomplished even in the case where substances having the ability to adsorb compound (A) are present besides the clay (page 16, line 5 to page 17, line 4).

The claimed density of the cationic polymer (C) also produces unexpectedly superior results. Specifically, the present specification recites:

As to the index of the ability to adsorb compound (A), it is preferable to apply the present invention to materials having a chemical equivalent of 0.1 meq or more (0.1 meq/100 g or more) to compound (A) per 100 g. Materials having a chemical equivalent of 1 to 10 meq/100 g in particular have a difficulty in obtaining an intended rheology modifying effect even if the amount of compound (A) to be added is significantly increased. Therefore, the present invention is preferable in such a case. The chemical equivalent of a material to compound (A) can be measured by the method described in the examples which will be explained later (page 17, lines 5-15).

In order to overcome the deficiencies of Yamamuro '875 as discussed above, the Examiner relies on Buckman '107. However, the cationic polymers in Buckman '107 have a molecular weight of more than 2,000,000 (see Examples 2, 6, and 8). The cationic polymer of Buckman '107 takes clay minerals into the cationic polymers, and they are precipitated in order to purify wastewater.

In contrast, claim 1 recites that the cationic polymer (C) has "a molecular weight of 1,000 to 500,000." Also, the present specification recites that "the adsorption of the cationic polymer (C) to clay causes the coagulation of clay particles and also, the surface area of clay is reduced, ensuring that the amount of compound (A) to be adsorbed to clay can be reduced. As a result, string-like micelles (huge micelle associated body) produced by the compounds (A) and (B) are formed sufficiently and therefore, the original effects of the compounds (A) and (B) are maintained" (page 16). The "original effects" of the compounds (A) and (B) are the rheology modifying effects, which means making the slurry stable. The viscoelasticity of the string-like micelles prevent clay particles from precipitating. Therefore, clay particles are not precipitated, and they are stably dispersed in the slurry.

Finally, the Examiner combines Yamamuro '875 with Buckman '107 without providing any reason or rationale for doing so. The Examiner only asserts, "At the time the invention was made it would have been obvious for a person of ordinary skill in the art to include Buckman's cationic polymer thickening agent and the amount in the rheology modifier composition of Yamamuro since it has been held that it is *prima facie* obvious to use a known material based on its suitability for its intended use" (page 5 of the outstanding Office Action). However, the Examiner makes no comments regarding using the cationic polymer (C) of the present invention with

Yamamuro '875 based on its suitability for its intended use. As such, the Examiner has failed to establish a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness of a claimed invention, all of the claim limitations must be disclosed by the cited references. As discussed above, Yamamuro '875 in view of Buckman '107 fail to disclose all of the claim limitations of independent claim 1, and those claims dependent thereon. Accordingly, the combination of references does not render the present invention obvious.

Furthermore, the cited references or the knowledge in the art provide no reason or rationale that would allow one of ordinary skill in the art to arrive at the present invention as claimed. Therefore, a *prima facie* case of obviousness has not been established, and withdrawal of the outstanding rejection is respectfully requested. Any contentions of the USPTO to the contrary must be reconsidered at present.

### **Conclusion**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

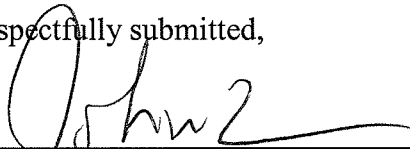
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad M. Rink, Registration No. 58,258, at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

**U**AN 1 5 2010

Dated: \_\_\_\_\_

Respectfully submitted,

By 

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